

Social Engineering Attacks Inference Rules

Tailgating

- attack(tailgating,r1,A2,a,l)←play(A2,r2)∧play(attacker,r1)∧Non_mandatory_C_p(r2,C,a)∧(ha_security_awareness(A2,h)∨ha_security_awareness(A2,m))∧(scene(r2,h)∨scene(r2,l))
- attack(tailgating,r1,A2,a,m)←play(A2,r2)∧play(attacker,r1)∧Non_mandatory_C_p(r2,C,a)∧ha_security_awareness(A2,l)∧(scene(r2,h)∨scene(r2,l))

Dumpster Diving

- attack(dumpster_diving,r1,A2,a,l)←Non_mandatory_C_p(r2,C,a)∧play(A2,r2)∧play(attacker,r1)∧(scene(r2,h)∨scene(r2,l))∧(ha_security_awareness(A2,h)∨ha_security_awareness(A2,m))
- attack(dumpster_diving,r1,A2,a,l)←Non_mandatory_C_p(r2,C,a)∧play(A2,r2)∧play(attacker,r1)∧scene(r2,h)∧ha_security_awareness(A2,l)
- attack(dumpster_diving,r1,A2,a,m)←Non_mandatory_C_p(r2,C,a)∧play(A2,r2)∧play(attacker,r1)∧scene(r2,l)∧ha_security_awareness(A2,l)

Intimidation

- attack(intimidation,r1,A2,a,l)←play(A2,r2)∧play(attacker,r1)∧(scene(r2,h)∨scene(r2,l))∧Non_mandatory_Sh_p(r2,Sh,a)∧mandatory_S_n(r1,S,a)∧subordinate(r1,r2)

\wedge (ha_security_awareness(A2,h) \vee ha_security_awareness(A2,m) \vee ha_security_awareness(A2,l))

\square
 attack(intimidation,r1,A2,a,l) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge (scene(r2,h) \vee scene(R2,l)) \wedge Non_mandatory_Sh_p(r2,Sh,a) \wedge mandatory_disqualification_S_n(r1,S,a) \wedge subordinate(r1,r2) \wedge (ha_security_awareness(A2,h) \vee ha_security_awareness(A2,m))

\square
 attack(intimidation,r1,A2,a,m) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge (scene(r2,h) \vee scene(R2,l)) \wedge Non_mandatory_Sh_p(r2,Sh,a) \wedge mandatory_disqualification_S_n(r1,S,a) \wedge subordinate(r1,r2) \wedge ha_security_awareness(A2,l)

\square
 attack(intimidation,r1,A2,a,l) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge (scene(r2,h) \vee scene(R2,l)) \wedge Non_mandatory_Sh_p(r2,Sh,a) \wedge mandatory_S_n(r1,S,a) \wedge authority(r1,r2) \wedge ha_security_awareness(A2,h) \vee ha_security_awareness(A2,m) \vee ha_security_awareness(A2,l))

\square
 attack(intimidation,r1,A2,a,l) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge (scene(r2,h) \vee scene(R2,l)) \wedge Non_mandatory_Sh_p(r2,Sh,a) \wedge mandatory_disqualification_S_n(r1,S,a) \wedge authority(r1,r2) \wedge ha_security_awareness(A2,l)

\square
 attack(intimidation,r1,A2,a,l) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge scene(r2,l) \wedge Non_mandatory_Sh_p(r2,Sh,a) \wedge mandatory_disqualification_S_n(r1,S,a) \wedge authority(r1,r2) \wedge ha_security_awareness(A2,l)

\square
 attack(intimidation,r1,A2,a,m) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge scene(r2,l) \wedge Non_mandatory_Sh_p(r2,Sh,a) \wedge mandatory_disqualification_S_n(r1,S,a) \wedge authority(r1,r2) \wedge ha_security_awareness(A2,l)

\square
 $\text{attack(intimidation, r1, A2, a, l) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge (scene(r2, h) \vee scene(R2, l)) \wedge Non_mandatory_C_p(r2, C, a) \wedge mandatory_S_n(r1, S, a) \wedge authority(r1, r2) \wedge (ha_security_awareness(A2, h) \vee ha_security_awareness(A2, m) \vee ha_security_awareness(A2, l))}$
)
 \square
 $\text{attack(intimidation, r1, A2, a, l) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge (scene(r2, h) \vee scene(R2, l)) \wedge Non_mandatory_C_p(r2, C, a) \wedge mandatory_disqualification_S_n(r1, S, a) \wedge authority(r1, r2) \wedge (ha_security_awareness(A2, h) \vee ha_security_awareness(A2, m))}$
 \square
 $\text{attack(intimidation, r1, A2, a, m) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge (scene(r2, h) \vee scene(R2, l)) \wedge Non_mandatory_C_p(r2, C, a) \wedge mandatory_disqualification_S_n(r1, S, a) \wedge authority(r1, r2) \wedge ha_security_awareness(A2, l)}$
 \square
 $\text{attack(intimidation, r1, A2, a, l) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge (scene(r2, h) \vee scene(R2, l)) \wedge Non_mandatory_C_p(r2, C, a) \wedge mandatory_S_n(r1, S, a) \wedge subordinate(r1, r2) \wedge ha_security_awareness(A2, h) \vee ha_security_awareness(A2, m)}$
 \square
 $\text{attack(intimidation, r1, A2, a, l) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge scene(r2, h) \wedge Non_mandatory_C_p(r2, C, a) \wedge mandatory_S_n(r1, S, a) \wedge subordinate(r1, r2) \wedge ha_security_awareness(A2, l)}$
 \square
 $\text{attack(intimidation, r1, A2, a, m) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge scene(r2, l) \wedge Non_mandatory_C_p(r2, C, a) \wedge mandatory_S_n(r1, S, a) \wedge subordinate(r1, r2) \wedge ha_security_awareness(A2, l)}$
 \square
 $\text{attack(intimidation, r1, A2, a, l) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge (scene(r2, h) \vee scene(R2, l)) \wedge Non_mandatory_C_p(r2, C, a) \wedge mandatory_disqualification_S_n(r1, S, a) \wedge subordinate(r1, r2) \wedge (ha_security_awareness(A2, h) \vee ha_security_awareness(A2, m))}$
 \square
 $\text{attack(intimidation, r1, A2, a, m) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge (scene(r2, h) \vee scene(R2, l)) \wedge Non_mandatory_C_p(r2, C, a) \wedge mandatory_disqualification_S_n(r1, S, a) \wedge subordinate(r1, r2) \wedge ha_security_awareness(A2, l)}$

Incentive

□
attack(incentive,r1,A2,a,l)←play(A2,r2) ∧ play(attacker,r1) ∧ (scene(r2,h) ∨ scene(r2,l))
∧ mandatory_S_n(r1,S,a,Y) ∧ Non_mandatory_Sh_p(r2,Sh,a) ∧ (ha_security_awareness(A2,h) ∨ ha_security_awareness(A2,m) ∨ ha_security_awareness(A2,l))

□
attack(incentive,r1,A2,a,l)←play(A2,r2) ∧ play(attacker,r1) ∧ (scene(r2,h) ∨ scene(r2,l))
∧ mandatory_disqualification_S_n(r1,S,a) ∧ Non_mandatory_Sh_p(r2,Sh,a) ∧ (ha_security_awareness(A2,h) ∨ ha_security_awareness(A2,m))

□
attack(incentive,r1,A2,a,l)←play(A2,r2) ∧ play(attacker,r1) ∧ scene(r2,h) ∧ mandatory_disqualification_S_n(r1,S,a) ∧ Non_mandatory_Sh_p(r2,Sh,a) ∧ ha_security_awarenesses(A2,l)

□
attack(incentive,r1,A2,a,m)←play(A2,r2) ∧ play(attacker,r1) ∧ scene(r2,l) ∧ mandatory_disqualification_S_n(r1,S,a) ∧ Non_mandatory_Sh_p(r2,Sh,a) ∧ ha_security_awarenesses(A2,l)

□
attack(incentive,r1,A2,a,l)←play(A2,r2) ∧ play(attacker,r1) ∧ (scene(r2,h) ∨ scene(r2,l))
∧ mandatory_S_n(r1,S,a,Y) ∧ Non_mandatory_C_p(r2,C,a) ∧ (ha_security_awareness(A2,h) ∨ ha_security_awareness(A2,m))

□
attack(incentive,r1,A2,a,l)←play(A2,r2) ∧ play(attacker,r1) ∧ scene(r2,h) ∧ mandatory_S_n(r1,S,a,Y) ∧ Non_mandatory_C_p(r2,C,a) ∧ ha_security_awareness(A2,l)

□
attack(incentive,r1,A2,a,m)←play(A2,r2) ∧ play(attacker,r1) ∧ scene(r2,h) ∧ mandatory_S_n(r1,S,a,Y) ∧ Non_mandatory_C_p(r2,C,a) ∧ ha_security_awareness(A2,l)

□
attack(incentive,r1,A2,a,l)←play(A2,r2) ∧ play(attacker,r1) ∧ (scene(r2,h) ∨ scene(r2,l))
∧ mandatory_disqualification_S_n(r1,S,a) ∧ Non_mandatory_C_p(r2,C,a) ∧ (ha_security_awareness(A2,h) ∨ ha_security_awareness(A2,m))

□

attack(incentive,r1,A2,a,m)←play(A2,r2)∧play(attacker,r1)∧(scene(r2,h)∨scene(r2,l))
)∧mandatory_disqualification_S_n(r1,S,a,Y)∧Non_mandatory_C_p(r2,C,a)∧ha_security_awareness(A2,l)

Impersonation

□

attack(impersonation,r1,A2,a,l)←play(A2,r2)∧play(attacker,r1)∧(scene(r2,h)∨scene(r2,l))
)∧mandatory_S_p(r1,S,a,Y)∧mandatory_S_p(r2,S,a,Y)∧Non_mandatory_C_p(r2,C,T)∧need(T,a)∧(ha_security_awareness(A2,h)∨ha_security_awareness(A2,m))
∨
ha_security_awareness(A2,l))

□

attack(impersonation,r1,A2,a,l)←play(A2,r2)∧play(attacker,r1)∧(scene(r2,h)∨scene(r2,l))
)∧mandatory_S_p(r1,S,a,Y)∧mandatory_disqualification_S_p(r2,S,a)∧Non_mandatory_C_p(r2,C,T)∧need(T,a)∧(ha_security_awareness(A2,h)∨ha_security_awareness(A2,m))

□

attack(impersonation,r1,A2,a,l)←play(A2,r2)∧play(attacker,r1)∧scene(r2,h)∧mandatory_disqualification_S_p(r1,S,a)∧mandatory_S_p(r2,S,a,Y)∧Non_mandatory_C_p(r2,C,T)∧need(T,a)∧ha_security_awareness(A2,l)

□

attack(impersonation,r1,A2,a,m)←play(A2,r2)∧play(attacker,r1)∧scene(r2,l)∧mandatory_disqualification_S_p(r1,S,a)∧mandatory_S_p(r2,S,a,Y)∧Non_mandatory_C_p(r2,C,T)∧need(T,a)∧ha_security_awareness(A2,l)

□

attack(impersonation,r1,A2,a,l)←play(A2,r2)∧play(attacker,r1)∧(scene(r2,h)∨scene(r2,l))
)∧mandatory_S_p(r1,S,a,Y)∧mandatory_disqualification_S_p(r2,S,a)∧Non_mandatory_C_p(r2,C,T)∧need(T,a)∧(ha_security_awareness(A2,h)∨ha_security_awareness(A2,m))

□

attack(impersonation,r1,A2,a,l)←play(A2,r2)∧play(attacker,r1)∧scene(r2,h)∧mandatory_disqualification_S_p(r1,S,a)∧mandatory_S_p(r2,S,a,Y)∧Non_mandatory_C_p(r2,C,T)∧need(T,a)∧(ha_security_awareness(A2,h)∨ha_security_awareness(A2,m))

$\text{ory_S_p(r1,S,a,Y) \wedge mandatory_disqualification_S_p(r2,S,a) \wedge Non_mandatory_C_p(r2,C,T) \wedge need(T,a) \wedge ha_security_awareness(A2,l)}$
 \square
 $\text{attack(impersonation,r1,A2,a,m) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge scene(r2,l) \wedge mandatory_disqualification_S_p(r1,S,a) \wedge mandatory_disqualification_S_p(r2,S,a) \wedge Non_mandatory_C_p(r2,C,T) \wedge need(T,a) \wedge ha_security_awareness(A2,l)}$
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 $\text{attack(impersonation,r1,A2,a,l) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge (scene(r2,h) \vee scene(r2,l)) \wedge mandatory_disqualification_S_p(r1,S,a) \wedge mandatory_disqualification_S_p(r2,S,a) \wedge Non_mandatory_C_p(r2,C,T) \wedge need(T,a) \wedge (ha_security_awareness(A2,h) \vee ha_security_awareness(A2,m))}$
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 $\text{attack(impersonation,r1,A2,a,m) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge (scene(r2,h) \vee scene(r2,l)) \wedge mandatory_disqualification_S_p(r1,S,a) \wedge mandatory_disqualification_S_p(r2,S,a) \wedge Non_mandatory_C_p(r2,C,T) \wedge need(T,a) \wedge ha_security_awareness(A2,l)}$
 \square
 $\text{attack(impersonation,r1,A2,a,m) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge scene(r2,l) \wedge mandatory_disqualification_S_p(r1,S,a) \wedge mandatory_disqualification_S_p(r2,S,a) \wedge Non_mandatory_Sh_p(r2,Sh,T) \wedge authority(r1,r2) \wedge generate(T,a) \wedge (ha_security_awareness(A2,h) \vee ha_security_awareness(A2,m) \vee ha_security_awareness(A2,l))}$
 \square
 $\text{attack(impersonation,r1,A2,a,l) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge (scene(r2,h) \vee scene(r2,l)) \wedge mandatory_disqualification_S_n(r1,S,a,Y) \wedge mandatory_S_p(r2,S,a,Y) \wedge Non_mandatory_Sh_p(r2,Sh,T) \wedge authority(r1,r2) \wedge generate(T,a) \wedge (ha_security_awareness(A2,h) \vee ha_security_awareness(A2,m) \vee ha_security_awareness(A2,l))}$

Responsibility

\square
 $\text{attack(responsibility,r1,A2,a,l) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge (scene(r2,h) \vee scene(r2,l)) \wedge mandatory_S_n(r1,S,a,Y) \wedge mandatory_S_p(r2,S,a,Y) \wedge Non_mandatory_Sh_p(r2,Sh,T) \wedge authority(r1,r2) \wedge generate(T,a) \wedge (ha_security_awareness(A2,h) \vee ha_security_awareness(A2,m) \vee ha_security_awareness(A2,l))}$
 \square
 $\text{attack(responsibility,r1,A2,a,l) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge (scene(r2,h) \vee scene(r2,l)) \wedge mandatory_disqualification_S_n(r1,S,a) \wedge mandatory_S_p(r2,S,a,Y) \wedge Non_mandatory_Sh_p(r2,Sh,T) \wedge authority(r1,r2) \wedge generate(T,a) \wedge (ha_security_awareness(A2,h) \vee ha_security_awareness(A2,m) \vee ha_security_awareness(A2,l))}$

h) $\vee \text{ha_security_awareness(A2,m)} \vee \text{ha_security_awareness(A2,l)}$
 \square
 attack(responsibility,r1,A2,a,l) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge (scene(r2,h) \vee scene(r2,l)) \wedge mandatory_S_n(r1,S,a,Y) \wedge mandatory_disqualification_S_p(r2,S,a) \wedge Non_mandatory_Sh_p(r2,Sh,T) \wedge authority(r1,r2) \wedge generate(T,a) \wedge (ha_security_awareness(A2,h) \vee ha_security_awareness(A2,m))
 h) $\vee \text{ha_security_awareness(A2,m)} \vee \text{ha_security_awareness(A2,l)}$
 \square
 attack(responsibility,r1,A2,a,l) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge (scene(r2,h) \vee scene(r2,l)) \wedge mandatory_disqualification_S_n(r1,S,a) \wedge mandatory_disqualification_S_p(r2,S,a) \wedge Non_mandatory_Sh_p(r2,Sh,T) \wedge authority(r1,r2) \wedge generate(T,a) \wedge (ha_security_awareness(A2,h) \vee ha_security_awareness(A2,m))
 \square
 attack(responsibility,r1,A2,a,l) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge scene(r2,h) \wedge mandatory_disqualification_S_n(r1,S,a) \wedge mandatory_disqualification_S_p(r2,S,a) \wedge Non_mandatory_Sh_p(r2,Sh,T) \wedge authority(r1,r2) \wedge generate(T,a) \wedge ha_security_awareness(A2,l)
 \square
 attack(responsibility,r1,A2,a,m) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge scene(r2,l) \wedge mandatory_disqualification_S_n(r1,S,a) \wedge mandatory_disqualification_S_p(r2,S,a) \wedge Non_mandatory_Sh_p(r2,Sh,T) \wedge authority(r1,r2) \wedge generate(T,a) \wedge ha_security_awareness(A2,l)
 \square
 attack(responsibility,r1,A2,a,l) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge (scene(r2,h) \vee scene(r2,l)) \wedge mandatory_S_n(r1,S,a,Y) \wedge mandatory_S_p(r2,S,a,Y) \wedge Non_mandatory_Sh_p(r2,Sh,T) \wedge subordinate(r1,r2) \wedge generate(T,a) \wedge (ha_security_awareness(A2,h) \vee ha_security_awareness(A2,m))
 \square
 attack(responsibility,r1,A2,a,l) \leftarrow play(A2,r2) \wedge play(attacker,r1) \wedge (scene(r2,h) \vee scene(r2,l)) \wedge mandatory_disqualification_S_n(r1,S,a) \wedge mandatory_S_p(r2,S,a,Y) \wedge Non_mandatory_Sh_p(r2,Sh,T) \wedge subordinate(r1,r2) \wedge generate(T,a) \wedge (ha_security_awareness(A2,h) \vee ha_security_awareness(A2,m))

\square
 $\text{attack(responsibility, r1, A2, a, l) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge scene(r2, h) \wedge mandatory_disqualification_S_n(r1, S, a) \wedge mandatory_S_p(r2, S, a, Y) \wedge Non_mandatory_Sh_p(r2, Sh, T) \wedge subordinate(r1, r2) \wedge generate(T, a) \wedge ha_security_awareness(A2, l)}$
 \square
 $\text{attack(responsibility, r1, A2, a, m) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge scene(r2, l) \wedge mandatory_disqualification_S_n(r1, S, a) \wedge mandatory_S_p(r2, S, a, Y) \wedge Non_mandatory_Sh_p(r2, Sh, T) \wedge subordinate(r1, r2) \wedge generate(T, a) \wedge ha_security_awareness(A2, l)}$
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 $\text{attack(responsibility, r1, A2, a, l) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge (scene(r2, h) \vee scene(r2, l)) \wedge mandatory_S_n(r1, S, a, Y) \wedge mandatory_disqualification_S_p(r2, S, a) \wedge Non_mandatory_Sh_p(r2, Sh, T) \wedge subordinate(r1, r2) \wedge generate(T, a) \wedge (ha_security_awareness(A2, h) \vee ha_security_awareness(A2, m))}$
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 $\text{attack(responsibility, r1, A2, a, l) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge scene(r2, h) \wedge mandatory_disqualification_S_n(r1, S, a, Y) \wedge mandatory_disqualification_S_p(r2, S, a) \wedge Non_mandatory_Sh_p(r2, Sh, T) \wedge subordinate(r1, r2) \wedge generate(T, a) \wedge ha_security_awareness(A2, l)}$
 \square
 $\text{attack(responsibility, r1, A2, a, m) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge scene(r2, l) \wedge mandatory_disqualification_S_n(r1, S, a, Y) \wedge mandatory_disqualification_S_p(r2, S, a) \wedge Non_mandatory_Sh_p(r2, Sh, T) \wedge subordinate(r1, r2) \wedge generate(T, a) \wedge ha_security_awareness(A2, l) \wedge (Non_mandatory_Sh_p(r2, Sh, T) \wedge subordinate(r1, r2) \wedge generate(T, a) \wedge (ha_security_awareness(A2, h) \vee ha_security_awareness(A2, m)))}$
 \square
 $\text{attack(responsibility, r1, A2, a, m) \leftarrow play(A2, r2) \wedge play(attacker, r1) \wedge (scene(r2, h) \vee scene(r2, l)) \wedge mandatory_disqualification_S_n(r1, S, a) \wedge mandatory_disqualification_S_p(r2, S, a) \wedge Non_mandatory_Sh_p(r2, Sh, T) \wedge subordinate(r1, r2) \wedge generate(T, a) \wedge ha_security_awareness(A2, m)}$

y_awareness(A2,l)